



TORQ Analysis of Computer Support Specialists to Technical Writers




INPUT SECTION:

Transfer	Title	O* NET	Filters		
From Title:	Computer Support Specialists	15-1041.00	Abilities:	Importance Level: 50	Weight: 1
To Title:	Technical Writers	27-3042.00	Skills:	Importance Level: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

OUTPUT SECTION:

Grand TORQ:

85

Ability TORQ				Skills TORQ				Knowledge TORQ			
Level		96		Level		82		Level		76	
Gaps To Narrow if Possible				Upgrade These Skills				Knowledge to Add			
Ability	Level	Gap	Impt	Skill	Level	Gap	Impt	Knowledge	Level	Gap	Impt
Written Expression	67	12	84	Time Management	60	11	86	English Language	72	15	92
Near Vision	60	1	68	Active Learning	73	11	81	Communications and Media	55	10	73
				Writing	79	10	87				
				Active Listening	76	10	81				
				Reading Comprehension	76	6	92				
				Learning Strategies	65	5	72				

LEVEL and IMPT (IMPORTANCE) refer to the Target Technical Writers. GAP refers to level difference between Computer Support Specialists and Technical Writers.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Computer Support Specialists	Technical Writers	Importance
Written Comprehension	69 	62 	84 
Written Expression	55 	67 	84 
Oral Comprehension	64 	60 	68 
Near Vision	59 	60 	68 
Oral Expression	62 	60 	65 



Deductive Reasoning	60		51		62
Information Ordering	57		53		62
Problem Sensitivity	55		44		59
Originality	46		44		53
Speech Clarity	44		41		53
Fluency of Ideas	48		46		50
Inductive Reasoning	64		48		50

Skill Level Comparison - Abilities with importance scores over 69

Description	Computer Support Specialists	Technical Writers	Importance
Reading Comprehension	70	76	92
Writing	69	79	87
Time Management	49	60	86
Active Listening	66	76	81
Active Learning	62	73	81
Learning Strategies	60	65	72

Knowledge Level Comparison - Knowledge with importance scores over 69

Description	Computer Support Specialists	Technical Writers	Importance
English Language	57	72	92
Computers and Electronics	70	61	77
Communications and Media	45	55	73

Experience & Education Comparison

Related Work Experience Comparison			Required Education Level Comparison		
Description	Computer Support Specialists	Technical Writers	Description	Computer Support Specialists	Technical Writers
10+ years	0%	0%	Doctoral	0%	0%
8-10 years	0%	3%	Professional Degree	0%	0%
6-8 years	0%	2%	Post-Masters Cert	0%	0%
4-6 years	0%	19%	Master's Degree	0%	0%
2-4 years	85%	62%	Post-Bachelor Cert	0%	1%
1-2 years	9%	11%	Bachelors	24%	91%
6-12 months	1%	0%	AA or Equiv	5%	4%
3-6 months	0%	0%	Some College	1%	0%
1-3 months	0%	0%	Post-Secondary Certificate	69%	0%
0-1 month	0%	0%	High School Diploma or GED	0%	1%
None	1%	0%			



No HSD or GED

0%

0%

Computer Support Specialists

Technical Writers

Most Common Educational/Training Requirement:

Associate degree

Bachelor's degree

Job Zone Comparison

3 - Job Zone Three: Medium Preparation Needed

Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.

Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.

4 - Job Zone Four: Considerable Preparation Needed

A minimum of two to four years of work-related skill, knowledge, or experience is needed for these occupations. For example, an accountant must complete four years of college and work for several years in accounting to be considered qualified.

Most of these occupations require a four - year bachelor's degree, but some do not.

Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.

Tasks

Computer Support Specialists

Core Tasks

Generalized Work Activities:

- Interacting With Computers - Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Updating and Using Relevant Knowledge - Keeping up-to-date technically and applying new knowledge to your job.
- Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.
- Communicating with Persons Outside Organization - Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail.

Specific Tasks

Occupation Specific Tasks:

- Answer user inquiries regarding computer software or hardware operation to resolve problems.
- Conduct office automation feasibility studies, including workflow analysis, space design, or cost comparison analysis.
- Confer with staff, users, and management to establish requirements for new systems or modifications.

Technical Writers

Core Tasks

Generalized Work Activities:

- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Interacting With Computers - Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Documenting/Recording Information - Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Updating and Using Relevant Knowledge - Keeping up-to-date technically and applying new knowledge to your job.

Specific Tasks

Occupation Specific Tasks:

- Analyze developments in specific field to determine need for revisions in previously published materials and development of new material.
- Arrange for typing, duplication, and distribution of material.
- Assist in laying out material for publication.
- Confer with customer representatives, vendors, plant executives, or publisher to establish technical specifications and to determine subject material to be developed for publication.



- Develop training materials and procedures, or train users in the proper use of hardware or software.
- Enter commands and observe system functioning to verify correct operations and detect errors.
- Inspect equipment and read order sheets to prepare for delivery to users.
- Install and perform minor repairs to hardware, software, or peripheral equipment, following design or installation specifications.
- Maintain records of daily data communication transactions, problems and remedial actions taken, or installation activities.
- Modify and customize commercial programs for internal needs.
- Oversee the daily performance of computer systems.
- Prepare evaluations of software or hardware, and recommend improvements or upgrades.
- Read technical manuals, confer with users, or conduct computer diagnostics to investigate and resolve problems or to provide technical assistance and support.
- Read trade magazines and technical manuals, or attend conferences and seminars to maintain knowledge of hardware and software.
- Refer major hardware or software problems or defective products to vendors or technicians for service.
- Set up equipment for employee use, performing or ensuring proper installation of cables, operating systems, or appropriate software.
- Supervise and coordinate workers engaged in problem-solving, monitoring, and installing data communication equipment and software.

Detailed Tasks

Detailed Work Activities:

- adjust computer operation system
- assist co-workers with software problems
- communicate technical information
- conduct computer diagnostics to determine nature of problems
- conduct training for personnel
- configure computers in industrial or manufacturing setting
- consult with staff or users to identify operating procedure problems
- evaluate computer system user requests or requirements
- evaluate prototype computer software systems
- follow data security procedures
- follow data storage procedures

- Draw sketches to illustrate specified materials or assembly sequence.
- Edit, standardize, or make changes to material prepared by other writers or establishment personnel.
- Interview production and engineering personnel and read journals and other material to become familiar with product technologies and production methods.
- Maintain records and files of work and revisions.
- Observe production, developmental, and experimental activities to determine operating procedure and detail.
- Organize material and complete writing assignment according to set standards regarding order, clarity, conciseness, style, and terminology.
- Review manufacturer's and trade catalogs, drawings and other data relative to operation, maintenance, and service of equipment.
- Review published materials and recommend revisions or changes in scope, format, content, and methods of reproduction and binding.
- Select photographs, drawings, sketches, diagrams, and charts to illustrate material.
- Study drawings, specifications, mockups, and product samples to integrate and delineate technology, operating procedure, and production sequence and detail.

Detailed Tasks

Detailed Work Activities:

- analyze technical data, designs, or preliminary specifications
- communicate technical information
- compile information through interviews
- confer with customer representatives
- confer with engineering, technical or manufacturing personnel
- confer with management or users
- confer with vendors
- edit written material
- ensure correct grammar, punctuation, or spelling
- interpret technical information for written materials
- maintain records, reports, or files
- observe production, experimental, or developmental activities
- organize journalistic or literary data
- prepare instruction manuals
- prepare technical reports or related documentation
- read production layouts
- read schematics



- identify appropriate software for project
- install computer programs
- install hardware, software, or peripheral equipment
- maintain or repair computers or related equipment
- monitor computer operation
- monitor operating conditions
- perform minor repairs to hardware, software, or peripheral equipment
- program computers using existing software
- provide technical computer training
- provide technical support to computer users
- recommend purchase or repair of furnishings or equipment
- recommend software or hardware purchases
- select business applications for computers
- select software for clerical activities
- test computer programs or systems
- train workers in use of computer and related equipment
- train workers in use of equipment
- understand computer equipment operating manuals
- use computer networking technology
- use computers to enter, access or retrieve data
- use desktop publishing software
- use geographical information system (GIS) software
- use interpersonal communication techniques
- use knowledge of mainframe computers
- use relational database software
- use spreadsheet software
- use word processing or desktop publishing software
- write computer software, programs, or code

Technology - Examples

Access software

- Mac HelpMate

Administration software

- Element management software
- SolarWinds software

Authentication server software

- Password management software

Backup or archival software

- read specifications
- read technical drawings
- read work order, instructions, formulas, or processing charts
- recommend action to ensure compliance
- set page layout or composition
- sketch or draw subjects or items
- understand computer equipment operating manuals
- understand service or repair manuals
- understand technical operating, service or repair manuals
- use interviewing procedures
- use photographic materials
- use technical information in manufacturing or industrial activities

Technology - Examples

Charting software

- Microsoft Office Visio

Computer aided design CAD software

- Autodesk AutoCAD software
- PTC Pro/ENGINEER software
- SolidWorks CAD software

Computer based training software

- Adobe Systems Adobe Captivate

Configuration management software

- IBM Rational ClearCase
- IBM Rational ClearQuest

Data base management system software

- Author-it
- Oracle Business Intelligence Discoverer
- Oracle software
- Talisma Knowledgebase

Data base reporting software

- Business Objects Crystal Reports

Data base user interface and query software

- Microsoft Access
- Structured query language SQL

Data mining software

- IBM Cognos 8 Business Intelligence

Desktop publishing software

- Adobe Systems Adobe FrameMaker



- Backup and archival software

- Disaster recovery software

- Microsoft Volume Shadow Copy Service

- Symantec LiveState

Calendar and scheduling software

- Calendar and scheduling software

Configuration management software

- Automated installation software

- Configuration management software

- Deployment software

- Patch management software

Data base management system software

- Database management software

Data base user interface and query software

- Database software

- Software asset management SAM software

Desktop communications software

- CrossTec NetOp Remote Control

- Remote control software

- Stac Software ReachOut

- Symantec pcAnywhere

Desktop publishing software

- Adobe Systems Adobe Distiller

Electronic mail software

- Email software

Filesystem software

- Desktop partitioning software

- Symantec Norton Utilities

Helpdesk or call center software

- Call center software

- Help desk software

Information retrieval or search software

- Information systems integration software

Internet browser software

- Internet browser software

Internet directory services software

- Active directory software

- Adobe Systems Adobe InDesign

- Corel Ventura

- PTC Arbortext

Development environment software

- Darwin information typing architecture DITA

- Extensible markup language XML

- Microsoft Visual Basic

- Standardized general markup language SGML

Document management software

- Adobe Systems Adobe Acrobat software

Electronic mail software

- IBM Lotus Notes

- Microsoft Outlook

Graphical user interface development software

- Adobe Systems Adobe RoboHelp

Graphics or photo imaging software

- Adobe Systems Adobe Illustrator

- Adobe Systems Adobe Photoshop software

- Corel CorelDraw Graphics Suite

- Corel Paint Shop Pro

Internet browser software

- Web browser software

Network conferencing software

- Microsoft Office SharePoint Portal Server

Object or component oriented development software

- Sun Microsystems Java

Office suite software

- Microsoft Office

Presentation software

- Microsoft PowerPoint

Project management software

- JustSystems XMetal

- Microsoft Project

Spreadsheet software

- Microsoft Excel

Web page creation and editing software

- Adobe Systems Adobe Dreamweaver



- Domain name system DNS software

- Network directory services software

License management software

- License management software

Network monitoring software

- Dartware InterMapper

Network operation system software

- Remote install server software

Operating system software

- Event log monitor software

- Microsoft Windows Pre-installation Environment

- Operating system monitoring software

- Personal computer diagnostic software

Platform interconnectivity software

- Migration software

Presentation software

- Presentation software

Program testing software

- Defect tracking software

Spreadsheet software

- Spreadsheet software

Storage networking software

- Media storage management software

Transaction security and virus protection software

- Encryption software

- Virus scanning software

Word processing software

- Word processing software

Tools - Examples

- Computer tool kits

- Desktop computers

- MS-DOS-bootable disks

- Redundant array of independent disks RAID systems

- Mainframe computers

- Network analyzers

- Notebook computers

- Adobe Systems Adobe Flash Player

- Quadralay WebWorks ePublisher

Web platform development software

- Cascading Style Sheets CSS

- Hypertext markup language HTML

- JavaScript

- Microsoft ASP.NET

- PHP: Hypertext Preprocessor

- Sun Microsystems Java server pages JSP

Word processing software

- Microsoft Word

Tools - Examples

- Desktop computers

- Compact digital cameras

- Universal serial bus USB flash drives

- Laptop computers

- Personal computers

- Computer data input scanners



- Personal digital assistants PDA
- Power meters
- Punchdown tools
- Reflectometers
- Screwdrivers
- Digital tapes
- Wire crimpers

Labor Market Comparison

Description	Computer Support Specialists	Technical Writers	Difference
Median Wage	\$ 40,200	\$ 46,060	\$ 5,860
10th Percentile Wage	\$ 27,070	\$ 31,370	\$ 4,300
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	\$ 47,830	\$ 58,180	\$ 10,350
90th Percentile Wage	\$ 55,380	\$ 71,380	\$ 16,000
Mean Wage	\$ 40,600	\$ 47,710	\$ 7,110
Total Employment - 2007	1,670	50	-1,620
Employment Base - 2006	1,690	53	-1,637
Projected Employment - 2016	1,778	49	-1,729
Projected Job Growth - 2006-2016	5.2 %	-7.5 %	-12.7 %
Projected Annual Openings - 2006-2016	61	2	-59

National Job Posting Trends

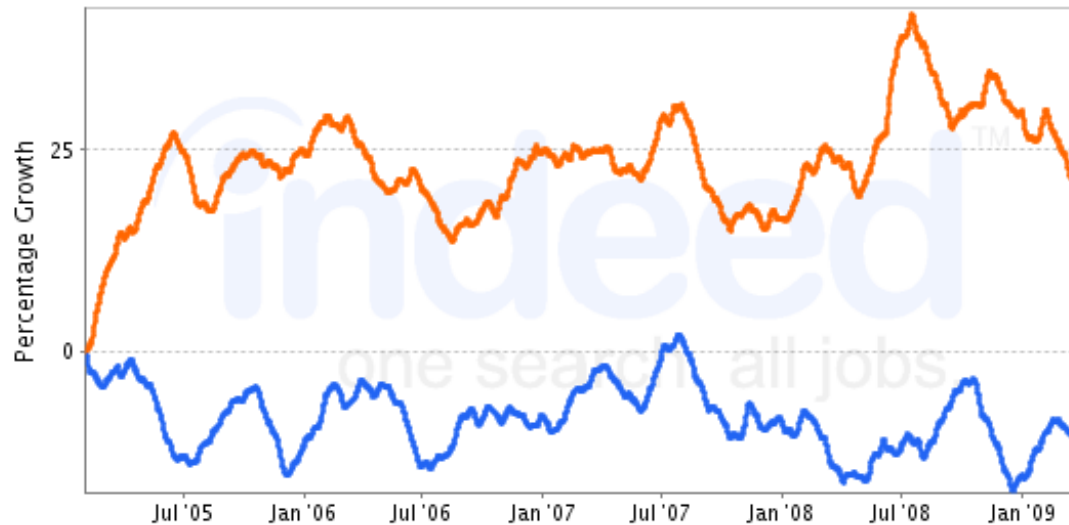
Trend for Computer Support Specialists

Trend for
Technical
Writers



Job Trends from Indeed.com

— Computer Support Specialist — Technical Writer



Data from [Indeed](http://Indeed.com)

Recommended Programs

Family and Consumer Sciences/Human Sciences Communication

Family and Consumer Sciences/Human Sciences Communication. A program that focuses on communication of human sciences subject matter and related consumer information to a variety of audiences through print and non-print media.

No schools available for the program

English Technical and Business Writing

Technical and Business Writing. A program that focuses on the theory, methods, and skills needed for writing and editing scientific, technical and business papers and monographs.

No schools available for the program

Business Communications

Business/Corporate Communications. A program that prepares individuals to function in an organization as a composer, editor and proofreader of business or business-related communications.

No schools available for the program

Maine Statewide Promotion Opportunities for Computer Support Specialists

O* NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
15-1041.00	Computer Support Specialists	100	3	1,670	\$40,200.00	\$0.00	5%	61
27-3042.00	Technical Writers	85	4	50	\$46,060.00	\$5,860.00	-8%	2
17-3012.01	Electronic Drafters	82	3	90	\$44,860.00	\$4,660.00	-16%	3
15-1051.00	Computer Systems Analysts	82	4	1,650	\$69,340.00	\$29,140.00	20%	78
15-1071.00	Network and Computer Systems Administrators	81	4	1,070	\$57,690.00	\$17,490.00	18%	44



13-2053.00	Insurance Underwriters	81	3	460	\$56,090.00	\$15,890.00	-1%	12
15-1021.00	Computer Programmers	81	4	720	\$58,240.00	\$18,040.00	-12%	16
17-3023.03	Electrical Engineering Technicians	81	3	430	\$45,180.00	\$4,980.00	-20%	9
13-1071.01	Employment Interviewers	80	3	610	\$41,200.00	\$1,000.00	10%	19
25-1021.00	Computer Science Teachers, Postsecondary	80	5	120	\$52,380.00	\$12,180.00	14%	4
13-1031.01	Claims Examiners, Property and Casualty Insurance	80	3	1,570	\$49,360.00	\$9,160.00	3%	44
13-1032.00	Insurance Appraisers, Auto Damage	80	3	40	\$49,950.00	\$9,750.00	5%	1
15-1061.00	Database Administrators	80	4	300	\$60,260.00	\$20,060.00	20%	11
13-1023.00	Purchasing Agents, Except Wholesale, Retail, and Farm Products	79	3	920	\$45,210.00	\$5,010.00	-2%	21
23-2011.00	Paralegals and Legal Assistants	79	3	1,010	\$40,260.00	\$60.00	15%	30

Top Industries for Technical Writers

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Computer systems design and related services	541500	16.58%	8,152	11,006	35.02%
Software publishers	511200	6.31%	3,099	3,990	28.76%
Management, scientific, and technical consulting services	541600	6.21%	3,054	5,452	78.52%
Research and development in the physical, engineering, and life sciences	541710	4.20%	2,066	2,204	6.69%
Employment services	561300	4.02%	1,977	2,502	26.56%
Self-employed workers, primary job	000601	3.54%	1,739	2,042	17.43%
Navigational, measuring, electromedical, and control instruments manufacturing	334500	3.29%	1,615	1,547	-4.26%
Self-employed workers, secondary job	000602	2.44%	1,200	1,315	9.51%
Management of companies and enterprises	551100	2.18%	1,072	1,236	15.28%
Federal government, excluding postal service	919999	2.16%	1,063	1,005	-5.47%



Computer and peripheral equipment manufacturing	334100	2.15%	1,058	692	-34.54%
Communications equipment manufacturing	334200	1.49%	731	737	0.79%
Semiconductor and other electronic component manufacturing	334400	1.48%	729	637	-12.59%
Independent artists, writers, and performers	711500	1.44%	708	989	39.81%
Data processing, hosting, and related services	518200	1.44%	706	954	35.19%

Top Industries for Computer Support Specialists

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Computer systems design and related services	541500	15.54%	85,860	104,333	21.51%
Colleges, universities, and professional schools, public and private	611300	5.81%	32,072	35,880	11.87%
Elementary and secondary schools, public and private	611100	5.16%	28,526	30,060	5.38%
Management of companies and enterprises	551100	4.54%	25,054	28,882	15.28%
Software publishers	511200	3.79%	20,951	24,278	15.88%
Employment services	561300	2.98%	16,453	20,824	26.56%
Local government, excluding education and hospitals	939300	2.89%	15,984	17,956	12.34%
Professional and commercial equipment and supplies merchant wholesalers	423400	2.58%	14,246	14,946	4.91%
Federal government, excluding postal service	919999	2.56%	14,152	13,378	-5.47%
Electronics and appliance stores	443100	2.09%	11,573	10,577	-8.61%
State government, excluding education and hospitals	929200	2.06%	11,375	11,162	-1.87%
Internet service providers and Web search portals	518100	1.98%	10,935	7,752	-29.11%
General medical and surgical hospitals, public and private	622100	1.92%	10,607	11,743	10.71%
Management, scientific, and technical consulting services	541600	1.88%	10,402	18,571	78.52%
Depository credit intermediation	522100	1.84%	10,158	10,357	1.95%